

Not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BOARD OF PATENT APPEALS AND INTERFERENCES

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Ex parte OWENS CORNING FIBERGLASS TECHNOLOGY INC.

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Appeal 2007-0916  
Application 10/051,486  
Technology Center 3600

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Decided: May 2, 2007  
(Corrected Application Number)

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Before TEDDY S. GRON, JAMESON LEE, and RICHARD TORCZON,  
*Administrative Patent Judges.*

TORCZON, *Administrative Patent Judge.*, with whom LEE, *Administrative Patent Judge*, joins.

DECISION ON APPEAL

INTRODUCTION

The claims on appeal relate to laminated roofing shingles with staggered shadow lines and to methods of making such shingles. The examiner rejected all of the pending claims for claiming subject matter that would have been obvious. We AFFIRM.

## BACKGROUND

A patent issued to appellant (Owens Corning) with twenty claims. Owens Corning filed a reissue application with significant amendments to the specification and with twenty-five additional claims. The examiner rejected all forty-five claims under 35 U.S.C. 103 as having been obvious to a person having ordinary skill in the art in view of the combined teachings of two utility patents (Weaver<sup>1</sup> and Corbin<sup>2</sup>) and a design patent (Hannah<sup>3</sup>).

## ANALYSIS

When considering the merits of an obviousness rejection under 35 U.S.C. 103, the scope and content of the prior art must be determined, the differences between the prior art and the claims ascertained, and the ordinary level of skill in the art resolved. Objective evidence of the circumstances relating to the claimed subject matter (so-called secondary considerations) may also be relevant. Such secondary considerations guard against the employment of impermissible hindsight.<sup>4</sup>

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<sup>1</sup> C. P. Weaver et al., "Laminated roofing shingle", U.S. Patent 5,666,776 (issued 16 Sep. 1997).

<sup>2</sup> R. L. Corbin and R. F. Reinhart, "Asphalt shingle for simulating a tiled roof", U.S. Patent 4,274,243 (issued 23 June 1981).

<sup>3</sup> M. G. Hannah et al., "Tab portion of a shingle", U.S. Des. 336,347 (issued 8 June 1993).

<sup>4</sup> *Graham v. John Deere Co.*, 383 U.S. 1, 17, 36 (1966). Owens Corning has not asked the Board to consider any objective evidence of secondary considerations.

*Scope and content of the prior art*

Composite shingles are commonplace in the roofing art.<sup>5</sup> These shingles offer cost and safety advantages over wood shingles, but are considered less aesthetically appealing than wood shingles. Wood shingles are said to produce "a finished roof having a layered look with depth."<sup>6</sup> Consequently, the prior art is rich with approaches designed to provide "an appearance of thickness comparable to that of wood shingles."<sup>7</sup> Weaver confirms the specification's assessment of the state of the art.<sup>8</sup> Both Corbin and Hannah appear in Weaver's five-page listing of cited references.<sup>9</sup>

Like Owens Corning, Weaver is concerned with producing composite shingles with a wood aesthetic. To this end, Weaver uses color gradients or gradations, layered sheets or strips, and tabs or "dragon teeth".<sup>10</sup> Corbin is also concerned with producing composite shingles that look like traditional roofing materials, including wooden shakes.<sup>11</sup> Corbin notes prior art shingles having layers with overlapping tabs and varied coloring that create the impression of shakes.<sup>12</sup>

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<sup>5</sup> Specification at column 1, lines 17-18 (henceforth abbreviated "1:17-18").

<sup>6</sup> Id. at 1:31-38.

<sup>7</sup> Id. at 1:39-57, discussing, *inter alia*, the cited Weaver patent and different Hannah design patents.

<sup>8</sup> Weaver at 1:55-2:13.

<sup>9</sup> Weaver at pp. 2 and 4.

<sup>10</sup> Id. at 2:13-27.

<sup>11</sup> Id. at 2:41-50.

<sup>12</sup> Id. at 2:51-3:17.

*Differences between the prior art and the claimed subject matter*

Owens Corning urges the following differences in its independent claims:<sup>13</sup>

Claim 1: "an overlay with tabs having a first shadow line and a remaining portion."<sup>14</sup>

Claim 7: "an overlay with tabs having a leading edge and a first shadow line on the leading edge."<sup>15</sup>

Claim 12: "the step of applying darker granules to portions of a base material corresponding to a leading edge of tabs of an overlay and lighter colored granules to remaining portions of the tabs and underlay."<sup>16</sup>

Claim 21: "an overlay with a tab having a leading edge that is generally darker than a remaining portion of the tab."<sup>17</sup>

Claim 22: "an overlay with a tab having a first shadow line between a leading edge and a remaining portion thereof."<sup>18</sup>

Claim 23: "an overlay with a tab having a first shadow line between a leading edge and a remaining portion."<sup>19</sup>

Claim 24: "a tab with first colored granules adhered to a leading edge of an outer surface thereof and second colored granules adhered to the outer

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<sup>13</sup> Appeal Br. (AB) at 19-23. We understand, of course, that claims must be considered as a whole. As a practical matter, however, differences must be addressed individually.

<sup>14</sup> AB at 19.

<sup>15</sup> AB at 20.

<sup>16</sup> AB at 20.

<sup>17</sup> AB at 21.

<sup>18</sup> AB at 21.

<sup>19</sup> AB at 22.

surface and separated from the leading edge thereof by the first colored granules, wherein the second colored granules have a different coloration or shade than the first colored granules...."<sup>20</sup>

Claim 34: "the step of applying granules of one color or shade to portions of the base material corresponding to a leading edge of a tab of an overlay...and applying granules of a different color or shade to adjacent portions of the tab and the underlay."<sup>21</sup>

Owens Corning urges the following additional differences for select dependent claims (in addition to the limitations from their respective parent claims):<sup>22</sup>

Claims 2 and 8: "the tabs further have a trailing edge on a side of the remaining portion of the tabs of the tabs opposite the leading edge of the tabs, and granules on the trailing edge form a shadow line that is substantially narrow relative to the shadow line on the trailing edge of the underlay."<sup>23</sup>

Claims 6 and 11: "the first shadow line is generally narrow relative to the second shadow line."<sup>24</sup>

Claim 25: "fifth colored granules adhere to the outer surface of the tab separated from the first colored granules by the second colored granules, the

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<sup>20</sup> AB at 22-23.

<sup>21</sup> AB at 23.

<sup>22</sup> AB at 24-26.

<sup>23</sup> AB at 24.

<sup>24</sup> AB at 24.

fifth colored granules having a different coloration or shade than the second colored granules."<sup>25</sup>

Claim 26: "the first colored granules form a shadow line adjacent the leading edge of the tab across substantially the entire width of the tab."<sup>26</sup>

Claim 27: "the first colored granules comprise darker granules than the second colored granules."<sup>27</sup>

Claim 33: "fifth colored granules adhere to the outer surface of each of the tabs separated from the first and sixth colored granules by the second colored granules, the fifth colored granules hav[ing] a different coloration or shade than the second colored granules and form[ing] a fourth shadow line adjacent the headlap section."<sup>28</sup>

Claim 43: "granules of the first color or shade are applied to portions of the base material corresponding to the tab and spaced from the leading edge of the tab and separated from the granules applied to the leading edge of the tab by the granules of the second color."<sup>29</sup>

For the purposes of this decision, we may accept the differences Owens Corning urges as differences from the prior art with a few caveats. Owens Corning does not contend that its inventors invented overlays, tabs, headlaps, the use of more than one color of granules, or the method of laying down more than one color of granule. Instead, each stated difference appears to relate to the positioning of a shadow line or colored granules.

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<sup>25</sup> AB at 25.

<sup>26</sup> AB at 25.

<sup>27</sup> AB at 25.

<sup>28</sup> AB at 26.

<sup>29</sup> AB at 26.

*Ordinary level of skill in the art*

The material aspects of the art are predictable. Those having ordinary skill in the art have long been familiar with composite roofing materials using layers, tabs, headlaps, and color variations to produce the appearance of wood and other traditional roofing materials. Indeed, Corbin describes the art has having attained success in simulating wooden shakes and so focuses on simulating tile roofs instead.<sup>30</sup> Even in its approach to simulating tile, Corbin assumes skilled artisans will readily understand that other configurations are possible, albeit less practical.<sup>31</sup> In short, skilled artisans were able to balance aesthetic choices versus production costs.

Weaver similarly assumes broad skill in the reader. Examples include the choice of the base material;<sup>32</sup> the choice of color and granule material;<sup>33</sup> the number, width, and color of horizontal striations depending on the aesthetic effect sought;<sup>34</sup> and the procedures for manufacturing such shingles with such features.<sup>35</sup> Weaver describes the equipment for producing such tiles as "sophisticated".<sup>36</sup>

Hannah is a design patent which provides no explicit discussion of the knowledge and abilities in the art. Nevertheless, Hannah's drawings suggest a capacity among shingle aestheticians to use multi-layer shingles with tabs

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<sup>30</sup> Corbin at 3:10-21.

<sup>31</sup> Id. at 8:47-54.

<sup>32</sup> Weave at 3:56-62.

<sup>33</sup> Id. at 3:66-4:8.

<sup>34</sup> Id. at 4:21-31.

<sup>35</sup> Weaver at 4:55-67.

<sup>36</sup> Id. at 5:58-6:2.

in varying configurations and color densities to achieve varying aesthetic effects.<sup>37</sup>

*Claim construction*

Owens Corning has not directed us to any limitation requiring its claims to produce any particular type of aesthetic impression. Thus, the broadest reasonable construction of the claims extends far beyond any intent to simulate wood shingles. The claimed shingles can have any appearance, including a tiled, thatched, or abstract appearance. They are not limited to looking like wooden shakes. The contested differences for the method claims lie in the appearance of the resulting shingles.

*"Printed matter" case law*

Since the differences in this appeal lie in the positioning of shadow lines and contrasting colored granules on a substrate, a review of "printed matter" case law is apt. The most recent precedential decision from the Court of Appeals for the Federal Circuit on this topic is *In re Ngai*, 367 F.3d 1336, 70 USPQ2d 1862 (Fed. Cir. 2004).

In *Ngai*, the first eighteen claims were directed to methods for normalizing and amplifying ribonucleic acids. These claims were allowed. A nineteenth claim, which was drawn to a kit containing standard reagents and instructions for performing the method of claim 1, was rejected under 35 U.S.C. .<sup>38</sup> The court affirmed the rejection because the difference between the claimed kit and a standard kit in the art lay in the content of the

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<sup>37</sup> Hannah, *passim*.

<sup>38</sup> The rejection of a twentieth claim had been reversed by the Board.



instructions. The court declined to give weight to the instructions limitation because the instructions bore no functional relationship to the substrate on which they were printed.

In reaching its decision, the court discussed and distinguished *In re Gulack*, 703 F.2d 1381, 217 USPQ 401 (Fed. Cir. 1983). In *Gulack*, the claims were directed to a band with a sequence of numerals printed such that the numerals read consecutively clockwise constituted the solution to a specific algorithm. The court reversed the rejection of the claims under § 103<sup>39</sup> because the printed numerals had a functional relationship to the band on which they were printed: they provided solutions to an algorithm.

A printed-matter analysis can also be used in contexts beyond printed matter limitations. *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994) (applying the analysis in the alternative). In *Lowry*, the court considered the rejection of claims to memory storing a data structure. The court found that the data structure resulted in electrical or magnetic differences in the structure of the memory, which resulted in a memory that performed differently. In view of this performance relationship between the data structure and the memory the court held that no prima facie case of obviousness had been established.<sup>40</sup>

"Printed matter" is not magic language that permits an examiner to ignore a claim limitation. Both *Lowry* and *Gulack* caution against the liberal application of printed matter rejections. As *Ngai* demonstrates, however, the printed matter analysis has a role in obviousness analysis. Superficial or

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<sup>39</sup> The Board had already reversed a rejection under 35 U.S.C. § 101.

<sup>40</sup> I.e., the data structure acted on the memory to restructure the memory.

aesthetic variations cannot distinguish over otherwise apt prior art: there must be a functional connection between the printed matter and the substrate.<sup>41</sup>

*The surface ornamentation lacks a functional connection*

As the examiner explained, those skilled in the art knew to vary tabs, shadow lines, and granule colors in pursuit of aesthetically pleasing shingles.<sup>42</sup> To the extent that they provide the illusion of a thicker material, that function was known in the art. While the specification discusses the desirability of a wood-shingle aesthetic, no such aesthetic is built into the claims. Moreover, neither the specification nor any testimony cited on appeal provide a basis for finding that the claimed arrangements of tabs, shadow lines, and colored granules combine to produce any unexpected result. Instead, the claimed invention is simply the predictable use of prior art elements according to their established functions.

Owens Corning argues that the references cannot be literally combined to teach the precise combinations claimed. The test for obviousness, however, does not require anticipation by combination. The examiner's approach of determining what those of skill in the art knew and would do is more to the point. The artisan knew how to use tabs, shadow lines, and granule-color variation to produce a variety of aesthetic effects

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<sup>41</sup> While the concurring opinion suggests this is a new ground of rejection, the fact is that the statutory basis and cited prior art remain the same. We have simply provided a time-honored label to the examiner's thesis that the precise positioning of the aesthetic elements of the shingles would have been obvious.

<sup>42</sup> E.g., Examiner's Answer (EA) at 4-5, 7, and 10-11.

and did so to stand out in a very crowded field. Aesthetic distinctness without more is a subjective consideration that has no place in the objective tests for obviousness.<sup>43</sup>

## DECISION

The examiner's rejection of all pending claims as having been obvious is AFFIRMED.

No time period for taking any subsequence action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

## AFFIRMED

GRON, *Administrative Patent Judge*, concurring in the result only.

Appellant's Brief and the Examiner's Answer make their respective cases for and against the patentability of the claimed subject matter under 35 U.S.C. § 103 without raising or discussing "printed-matter" issues. The Examiner's case for obviousness is conventionally presented in terms of the combined prior art teachings, motivation to modify, and the reasonable expectation of success. Appellant has responded in kind. "Printed-matter" is mentioned in this case for the first time by the Majority in their decision on appeal. The Majority focuses exclusively on Appellant's claims directed to shingles and disregards Appellant's claims drawn to methods of making shingles.

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<sup>43</sup> De gustibus non est disputandum. See Justice Scalia's concurrence in *Pope v. Illinois*, 481 U.S. 497, 505-506 (1987), regarding the difficulty of fitting an aesthetic test within an objective test.

On this record, the Examiner has established that the subject matter Appellant claims is prima facie obviousness under 35 U.S.C. § 103. It is my view that the Examiner's case for obviousness has not been rebutted. Therefore, I would affirm the Examiner's final rejections.

Nevertheless, the Majority has raised new issues and entered new grounds of rejection in this case on that basis without acknowledgment. No final rejection based on concepts of "printed-matter" was presented for appeal. On this record, I find elements of function in the claim limitations the Majority refers to as purely aesthetic distinctions. I'm not buying the extra gloss the Majority has added to its composition without considering the claimed composition as a whole, especially without proper or adequate briefing and focus.

lp

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